

## ABSTRACT

This invention relates to device for processing an image signal that can improve an image quality of a zoom image. Based on input image signal (Vin), an image-signal-processing section (110) produces output  
5 image signal (Vout) to display the zoom image with expansion rate of an image being changed consecutively around an arbitrary point specified by the user as a center. Each pixel data of the output image signal (Vout) is calculated by using coefficient data (Wi) produced by the coefficient production circuit (136). The coefficient production  
10 circuit (136) produces the coefficient data (Wi) based on not only the phase information (h, v) of each pixel but also the resolution adjustment information (f) and the noise suppression degree adjustment information (g) that the image quality adjustment information generation circuit (140) generates based on expansion rate (T) of the  
15 image, change rate (K) of the expansion rate of the image, and characteristics information (DR, MV) of the image.

(19) 世界知的所有権機関  
国際事務局

03 JUN 2004

(43) 国際公開日  
2004年7月1日 (01.07.2004)

PCT

(10) 国際公開番号  
WO 2004/055775 A1

(51) 国際特許分類: G09G 5/00  
(21) 国際出願番号: PCT/JP2003/015977  
(22) 国際出願日: 2003年12月12日 (12.12.2003)  
(25) 国際出願の言語: 日本語  
(26) 国際公開の言語: 日本語  
(30) 優先権データ:  
特願2002-362666  
2002年12月13日 (13.12.2002) JP

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(81) 指定国(国内): CN, KR, US.

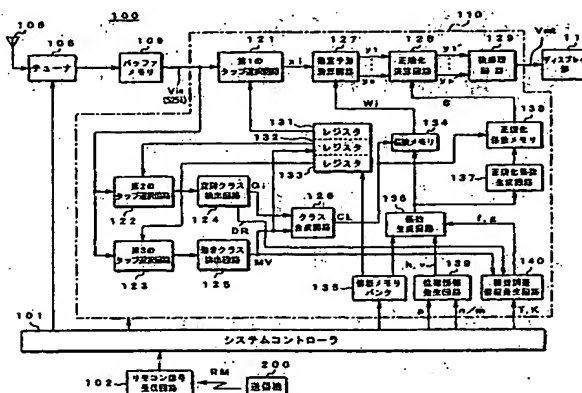
(84) 指定国(広域): ヨーロッパ特許(AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).

添付公開書類:  
— 国際調査報告書

[続葉有]

(54) Title: IMAGE SIGNAL PROCESSING APPARATUS, IMAGE SIGNAL PROCESSING METHOD, PROGRAM FOR PRACTICING THAT METHOD, AND COMPUTER-READABLE MEDIUM IN WHICH THAT PROGRAM HAS BEEN RECORDED

(54) 発明の名称: 画像信号処理装置、画像信号処理方法、その方法を実行するためのプログラム、およびそのプログラムを記録したコンピュータ読み取り可能な媒体



100...TUNER  
109...BUFFER MEMORY  
121...FIRST TAP SELECTION CIRCUIT  
127...ESTIMATION/PREDICTION CALCULATING CIRCUIT  
128...NORMALIZATION CALCULATING CIRCUIT  
129...POST-PROCESSING CIRCUIT  
111...DISPLAY PART  
131...REGISTER  
132...REGISTER  
133...REGISTER  
134...COEFFICIENT MEMORY  
138...NORMALIZATION COEFFICIENT MEMORY  
137...NORMALIZATION COEFFICIENT GENERATOR CIRCUIT  
122...SECOND TAP SELECTION CIRCUIT  
124...SPATIAL CLASS DETERMINING CIRCUIT  
123...THIRD TAP SELECTION CIRCUIT  
125...MOTION CLASS DETERMINING CIRCUIT  
126...CLASS COMBINING CIRCUIT  
136...COEFFICIENT GENERATOR CIRCUIT  
135...INFORMATION MEMORY BANK  
139...PHASE INFORMATION GENERATOR CIRCUIT  
140...IMAGE QUALITY ADJUSTMENT INFORMATION GENERATOR CIRCUIT  
101...SYSTEM CONTROLLER  
102...REMOTE CONTROL SIGNAL RECEIVER CIRCUIT  
200...TRANSMITTER

(57) Abstract: An image signal processing apparatus that improves the qualities of zoomed images. An image signal processing part (110) produces, based on an input image signal ( $V_{in}$ ), an output image signal ( $V_{out}$ ) for displaying a zoomed image in which the image enlargement ratio continuously varies with an arbitrary point that is designated by the user being centered. The pixel data of the output image signal ( $V_{out}$ ) are calculated by use of coefficient data ( $W_i$ ) generated by a coefficient generator circuit (136). The coefficient generator circuit (136) produces the coefficient data ( $W_i$ ) not only based on phase information of the pixels ( $h, v$ ) but also based on resolution adjustment information ( $f$ ) and noise suppression degree adjustment information ( $g$ ) generated, based on an image enlargement ratio ( $T$ ), a variation rate of the image enlargement ratio ( $K$ ) and image characteristic information ( $DR, MV$ ), by an image quality adjustment information generator circuit (140)

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